



Design & Technology Programme of Study

Last updated: Tiarna Lloyd & Sam O'Regan, 2025

Somerdale Educate Together uses resources from the Design Technology Association for Key Stage 1 and Key Stage 2. The units cover the national curriculum programme of study for Design & Technology. Teachers use the DT Association Clickable Progression Framework KS1 & KS2 to support planning the delivery of the units. FoodaFactofLife.org.uk can also be used to complement the food units.

Purpose of Study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils

design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art.

Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and wellbeing of the nation.

Aims

Pupils should be taught:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.
- critique, evaluate and test their ideas and products and the work of others.
- understand and apply the principles of nutrition and learn how to cook.

Early Years Foundation Stage

Within the EYFS, strands of Design & Technology can be found within Expressive Arts & Design. Below are extracts from Development Matters which link.

Pre-School

Explore different materials freely, in order to develop their ideas about how to use them and what to make

Develop their own ideas and then decide which materials to use to express them.

Join different materials and explore different textures.

Create closed shapes with continuous lines and begin to use these shapes to represent objects.

Draw with increasing complexity and detail, such as representing a face with a circle and including details.

Use drawing to represent ideas like movement or loud noises.

Show different emotions in their drawings and paintings, like happiness, sadness, fear etc.

Explore colour and colour-mixing.



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Curriculum Information

Reception

Explore, use and refine a variety of artistic effects to express their ideas and feelings.
Return to and build on their previous learning, refining ideas and developing their ability to represent them.
Create collaboratively sharing ideas, resources and skills.

Unit Summaries & Curriculum Coverage for Key Stage 1 and Key Stage 2

Year One

Focus	<u>Mechanisms</u> Sliders and levers	<u>Structures</u> Freestanding structures	<u>Food</u> Preparing fruit and vegetables (including cooking and nutrition requirements for KS1)
Key Learning	Generating, modelling and communicating ideas. Planning making, selecting tools and using finishing techniques. Exploring books and products; evaluating own product against original criteria. Exploring sliders and levers; understanding types of movement; technical vocabulary.	Generating design ideas; developing modelling and explaining using talk, mock-ups and drawings. Planning making, selecting tools and new and recycled materials; using finishing techniques. Exploring existing freestanding structures; evaluating their own products against original criteria. Know about strengthening structures; knowledge of vocabulary.	Designing appealing products for a user; investigating fruit and vegetables and generating ideas; communicating through talk and drawings. Selecting a range of fruits and vegetables; using simple utensils and equipment. Tasting and evaluating user's preference; evaluating ideas and finished products against original criteria. Understand where ingredients come from and the basis of a healthy and varied diet.
Unit	Moving Pictures	Whose home?	Fantastic Fruit

Year Two

Focus	<u>Mechanisms</u> Wheels and axles	<u>Food</u> Preparing fruit and vegetables (including cooking and nutrition requirements for KS1)	<u>Textiles</u> Templates and joining techniques
Key Learning	Generate ideas and simple design criteria. Develop and communicate ideas through drawings and mock-ups. Select a range of tools and equipment and materials to perform practical tasks. Explore wheels and axles and evaluate their ideas and products against original criteria.	Designing appealing products for a user; investigating fruit and vegetables and generating ideas; communicating through talk and drawings. Selecting a range of fruits and vegetables; using simple utensils and equipment. Tasting and evaluating user's preference; evaluating ideas and finished products against original criteria. Understand where ingredients come from and the basis of a healthy and varied diet.	Design a functional, appealing product for a chosen user and purpose. Generate, develop, and communicate ideas. Use a range of textiles, tools and equipment to perform practical tasks. Explore and evaluate existing textile products and their own ideas and products. Understand how 3-D textile products are made, using joining, templates and finishing to create two identical shapes.
Unit	LGP Wheels	Sandwich Snacks	Puppets

Year Three

Focus	<u>Structures</u> Shell structures (including computer-aided design)	<u>Food</u> Healthy and varied diet (including cooking and nutrition requirements for KS2)	<u>Textiles</u> 2D shape to 3D product
Key Learning	Generate ideas and designs, developing them through analysis of shell structures and use CAD to model and communicate ideas. Plan the making and use appropriate tools and software, explaining their choices. Use computer-generated finishing techniques. Evaluate shell structures and their own products. Develop knowledge of nets of cubes and cuboids and more complex 3D shapes and how to construct strong, stiff shell structures.	Generate ideas and develop design criteria for an appealing product for a user and purpose. Plan the main stages of a recipe, listing ingredients, utensils and equipment. Select from a range of ingredients to make appropriate food products. Carry out and record evaluations of a variety of ingredients and products. Know a range of appropriate ingredients, and whether they are grown, reared or caught.	Generate design criteria for an appealing, functional product for specific users. Produce annotated sketches, prototypes, final product sketches and pattern pieces. Select fabrics and fastenings according to their functional characteristics. Investigate a range of 3-D textile products. Test their product against the original criteria and with the intended user.
Unit	Banish Broken Biscuits	Super Salads	Aprons or Bendy Bags or Fancy a Bag

'Learn Together to Live Together'

Equity Based

Aspirational

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Year Four			
Focus	<u>Mechanical Systems</u> Levers and linkages	<u>Electrical Systems</u> Simple circuits and switches (including programming and control)	<u>Food</u> Healthy and varied diet (including cooking and nutrition requirements for KS2)
Key Learning	Generate realistic ideas and use annotated sketches and prototypes to develop, model and communicate ideas. Select and use tools with some accuracy to cut, shape and join paper and card. Investigate and analyse their own and others' products with lever and linkage mechanisms. Understand and use lever and linkages, and fixed and loose pivots.	Gather information and develop and communicate realistic design ideas using annotated sketches and prototypes. Connect simple electrical components in a series circuit and program an interface to enhance the way the product works. Investigate and analyse a range of powered products, including programmed, and evaluate their own products and design criteria. Understand and use computing to program and control products with electrical systems.	Generate ideas and develop design criteria for an appealing product for a user and purpose. Plan the main stages of a recipe, listing ingredients, utensils and equipment. Select from a range of ingredients to make appropriate food products. Carry out and record evaluations of a variety of ingredients and products. Know a range of appropriate ingredients, and whether they are grown, reared or caught.
Unit	Moving History Book	Alarming Vehicles or Night Lights or Torches, Lamps & Lanterns	Dips & Dippers

Year Five			
Focus	<u>Structures</u> Frame structures	<u>Food</u> Celebrating culture and seasonality (including cooking and nutrition requirements for KS2)	<u>Electrical Systems</u> More complex switches and circuits (including programming, monitoring and control)
Key Learning	Research user needs and existing products and develop and model innovative ideas into a design specification. Formulate a plan with a step-by-step list of tasks and resources. Use tools to accurately measure, mark out, cut, shape and join materials to make frameworks. Use finishing techniques suitable for the product and critically evaluate their products against a range of criteria. Research key events and individuals relevant to frame structures.	Generate and explore innovative ideas through research and discussion to develop a design brief. Write a step-by-step recipe, including a list of ingredients, equipment and utensils. Using appropriate utensils and equipment accurately, make, decorate and present a food product for the intended user and purpose. Evaluate a range of relevant products and ingredients and the final product with reference to the design brief and specification. Understand seasonality and the source of different food products.	Develop a design specification for a functional product that responds automatically to changes in the environment. Formulate a step-by-step plan to making, listing tools, equipment, materials and components. Use a computer control program to enable an electrical product to work automatically in response to changes in the environment. Test and evaluate the system to demonstrate its effectiveness for the intended user and purpose. Know and use technical vocabulary relevant to the project.
Unit	Bird Hides in Dragon's Den	Caribbean Fruit Cocktails or Soups Celebrating Culture & Seasonality	Alarming Vehicles

Year Six			
Focus	<u>Textiles</u> Combining different fabric shapes (including computer-aided design)	<u>Mechanical Systems</u> Pulleys or gears	<u>Food</u> Celebrating culture and seasonality (including cooking and nutrition requirements for KS2)
Key Learning	Generate and communicate innovative ideas through research. Produce detailed lists of equipment and fabrics and formulate step-by-step plans for making. Investigate and analyse textile products linked to their final product and compare the final product to the original design specification. Know that a 3-D textile product can be made from a combination of pattern pieces, fabric shapes and different fabrics and that fabrics can be strengthened, stiffened and reinforced.	Generate ideas through research and develop and communicate a simple design specification. Select use a range of tools and equipment to make products that that are accurately assembled and well finished within the constraints of time, resources and cost. Compare the final product to the original design specification and test the quality of the design, manufacture and functionality with the user. Investigate famous manufacturing and engineering companies relevant to the project.	Generate and explore innovative ideas through research and discussion to develop a design brief. Write a step-by-step recipe, including a list of ingredients, equipment and utensils. Using appropriate utensils and equipment accurately, make, decorate and present a food product for the intended user and purpose. Evaluate a range of relevant products and ingredients and the final product with reference to the design brief and specification. Understand seasonality and the source of different food products.

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Unit	Designer Bags	Gears and Pulleys	Christmas Ginger Biscuits or Willy Wonka's Fairtrade Cookies
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